Report for 2001MT2001B: Development of an internet mapping application to allow spatial queries and data extraction from the MBMG Abandoned/Inactive Mine database

There are no reported publications resulting from this project.

Report Follows:

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Report No. 215
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Abstract

The Montana Bureau of Mines and Geology (MBMG) has constructed an internet mapping application to access its Abandoned/Inactive Mines (AIM) database <http://mbmggis/website/mines>. The AIM database includes information on more than 4,000 sites inventoried by MBMG for the US Forest Service (USFS) and the Bureau of Land Management (BLM). This study used ESRI ArcIMS software to create an online map interface where the user can make spatial or attribute queries.

Problem and Research Objective

The quality of water associated with abandoned and inactive mines (AIM) is an important environmental issue in the state of Montana. The Montana Bureau of Mines and Geology (MBMG) has inventoried nearly 4,000 abandoned and inactive mine sites for the U.S. Forest Service (USFS) and the Bureau of Land Management (BLM).

Previous to this project, however, there was no easy method for the public and other government agencies to access this data. The internet mapping application created for this study provides a map-based interface to MBMG's AIM database covering the entire state <http://mbmggis/website/mines>. It includes all AIM sites on or influencing federal land which have the potential to influence the water quality in many of Montana's streams.

Methodology

This internet mapping application was developed using Environmental Systems Research Institute (ESRI) ArcIMS software on a PC (900 MHz AMD processor, 256 Mb RAM, ASUS motherboard) dedicated as the internet map server.

Currently, all of the sites in the AIM database is converted to an ArcView shapefile. This point theme is then included in the ArcIMS project and displayed with other geographic base layers. In the future, MBMG hopes to enhance this ArcIMS application so that locations will be displayed and can be queried directly from the AIM database.

Results

The resulting internet application allows both spatial and attribute queries of data from the MBMG AIM database. Examples of spatial queries would be all sites within the Gallatin National Forest or within Park County. Examples of attribute queries would be all sites with water pH values less than 3. This service will provide a readily available and easily updated tool that can be used with all sorts of environmental applications in areas near abandoned and inactive mines associated with USFS and BLM property.